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DIRECTOR

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ENERGY
GAS AND OIL
MINED LAND RECLAMATION
MINERAL MINING
MINERAL RESOURCES
MINES
ADMINISTRATION

COMMONWEALTH OF VIRGINIA

Department of Mines, Minerals and Energy
Division of Mines
P.O. Box 900
Big Stone Gap, Virginia 24219-0900
(276) 523-8100
Frank A. Linkous, Chief

MEMORANDUM ***DM 05-04***

TO: All Virginia Surface Coal Mine Operators

FROM: *Frank A. Linkous*
Frank A. Linkous, Chief Division of Mines

RE: Ground Control Plans

DATE: March 11, 2005

On February 10th, 2005, the Governor signed into law House Bill 2573, which includes significant changes to Section 45.1-161.287 of the Coal Mine Safety Laws of Virginia. The Chief of the Department of Mines, Minerals and Energy's Division of Mines must now approve ground control plans for all mines. The plan must ensure the safety of persons in residences, roadways, and in other areas where persons congregate, work, or travel. The plan must also address how residents or occupants of buildings located down the slope from active workings will be notified when ground disturbing activities will take place above them and what actions will be taken to protect them.

The Division of Mines and the Division of Mined Land Reclamation have developed a generic ground control plan (enclosed) as an example for surface mine operations. While surface mine operators may choose to pattern their own plan after the generic plan or to submit one of their own designs, any plan submitted must contain each requirement detailed in the generic ground control plan, in particular those requirements pertaining to working in "red zones". Red zones, as defined by the generic plan, are work areas that represent a potential hazard to the public. This nomenclature (red zones) has been used for underground mines in regards to working around the continuous mining machines. The Department is using this terminology for work areas that represent a potential hazard to the public for surface mine operations.

Since the red zones will be required to be shown on the surface mine map and are an integral part of the ground control plan, it will also be necessary for you to submit,

with the plan, an updated map of the mine that meets the requirements of Section 45.1-161.64. You should make your own determination of the location of the red zones, however, the Divisions of Mines and Mined Land Reclamation will evaluate the plan and red zones for adequacy.

The Department of Mines, Minerals and Energy is requiring all surface mine operations to submit a revised ground control plan to the Division of Mines by **April 15, 2005**. If you have any questions or problems developing your ground control plan, please contact your assigned mine inspector or call a Division of Mines roof control specialist at Big Stone Gap (276-523-8229) or Keen Mountain (276-498-4553).

DM and DMLR will jointly review the ground control plans. Assigned inspectors from each division, as well as designated technical personnel, will evaluate the submitted ground control plans. You will not have to submit separately to each division. A single cover letter addressed to the Chief of DM and the Acting Division Director of DMLR will suffice.

Should you have several surface mine operations and foresee difficulty meeting the above deadline, please contact us to prioritize submittal of ground control plans for your operations.

dm
Enclosure

Company Name
Mine Name
Address
City, State, Zip

Date

Frank A. Linkous, Chief
Division of Mines

Acting Division Director
Division of Mined Land Reclamation
PO Box 900
Big Stone Gap, VA 24219

RE: Ground Control Plan, Company Name, Mine Name, Mine Index No. MI No., MSHA No. MSHA No., DMLR Coal Surface Mining Permit No. DMLR Permit No.

Dear Mr. Linkous:

In compliance with Section 45.1-161.287.A of the Coal Mine Safety Laws of Virginia, the following Ground Control Plan is submitted for the above referenced mine. Your prompt consideration and approval will be appreciated.

Sincerely:

_____
Name
Title

Ground Control Plan

1. **General Information:**

Company Name	Mine Name or Number

MSHA Number	DMLR Permit No.	Mine Index Number

2. **Auger/Highwall Miner General Information (if applicable):**

Company Name	Mine Name or Number

MSHA Number	Mine Index Number

3. **Type of Operation (check all that apply):**

☐ Surface Mine ☐ Auger ☐ Highwall Miner ☐ Face up for Deep Mine

4. **Seams to be Mined:**

Seam	Comments

Attached is a sketch showing a cross section of the highwall, coal seams being mined, bench widths, highwall angle, safety benches, and other pertinent information.

5. Tree removal

a. Highwalls, including existing highwalls, will be cleared of all trees, brush, and loose material that create a hazard to workers.

b. Persons having to work in close proximity to the top of a highwall to remove trees, brush, or loose material will be secured by a harness/belt and rope or similar device or work will be done utilizing equipment designed to do such work.

c. Trees that need to be removed that have a potential to contact energized power lines will be removed in a manner that does not expose workers to contact with such lines. This may include using cables, ropes or de-energizing the electrical power from the lines. The owner of the power line will be notified prior to work being performed and in the event of any damage to the power line.

6. Highwall and Spoil Banks

a. Pit widths will be designed in such a manner to allow for safe operation of all the equipment used in the pit.

b. The highwall will be sloped back at least 5 degrees past the vertical. Existing highwalls and pre-split highwalls are exempt from this standard.

c. Loose material will be removed, using appropriate equipment, from the highwall as it is exposed.

d. Safety benches and other no less effective control measures will be used where the highwall is susceptible to material sloughing.

e. Equipment operated where there are hazards from highwalls will have adequate protection from falling material.

f. When a drill or other equipment must operate at the base of a highwall the operator will, where practical, position the drill so that the cab is not located directly against the wall.

g. Operating equipment near highwalls and spoil banks, such as loading haulers, will be performed in a manner so that the equipment operator is positioned in the safest location.

h. Spoil banks will be moved in a manner that does not create an overhang that exposes workers to hazards from falling or sliding material. Dozers or other equipment will be used to break down the upper portion of spoil banks in order to prevent overhangs and other hazards.

i. Spoil banks adjacent to all active mining pits, where equipment and men are exposed, will be constructed on a safe slope and in such a manner to protect persons from falling or sliding material. Where spoil banks become so steep that hazardous conditions exist for equipment and men working under them, action will be taken immediately to correct the hazardous condition.

j. The surface foreman will examine highwalls and spoil banks for hazardous conditions prior to maintenance personnel and other personnel such as blasters, surveyors, or coal samplers entering the assigned work area near a highwall or spoil bank.

7. Roadways

a. Haul roads, including roads used for the removal of coal from pits, to the extent possible, will be constructed a safe distance away from highwalls, to minimize exposure to falling or sliding materials.

b. Roadways that are exposed to upslope dumping or pushing of material will be protected by effective means utilized to ensure the safety of vehicles traveling on the roadway.

c. Spoil banks adjacent to active roads will be maintained in such a manner to protect persons from hazardous conditions.

8. Mine Map

a. A map will be maintained at the mine site showing residences, businesses, public buildings, and public or private roads that may be affected by mining activities.

b. Temporary notations to include updates of gas wells, gas lines, and other potentially mine affected changes will be updated on a map when they become known.

c. All red zone areas of the mine will be clearly identified on the map by highlighting or other no less effective means. **Red zones are work areas that represent a potential hazard to the public safety.**

d. The surface mine map will be updated every six months and certified by a registered professional engineer or certified land surveyor.

e. All foremen will be familiar with the contents of the map, the outer perimeter boundaries of the permit area, and the red zones.

9. Working In or Around Red Zones

a. Warning signs, flagging, or other no less effective means will be used to mark work areas that are designated red zones. The method used to mark these work areas will be distinctively different from other warnings and markings utilized at the mine site.

b. Berms, fencing, or other barrier protection will be used to contain materials upslope from red zones. In locations where berms, fencing or other barrier protection cannot be used or is not practical, spotters will be used to control work such that all material is prevented from rolling, slipping, or sliding down slope. No work will be performed upslope in red zones without these precautions in place.

c. Work activity in red zone areas will be conducted in a safe manner using proper equipment for the work being performed.

d. Residents or occupants of other buildings affected by red zones will be notified by personal contact or by written notice conspicuously attached to the residence or building at least three hours and no more than 24 hours prior to beginning such work. This notification is to include the type of work that is planned, the length of time the work is expected to last, and the safety measures that will be used. A record of the notification will be recorded in the on-shift report of the mine or a record book designated for that purpose maintained at the mine site.

e. When blasting in red zone areas, blasting procedures will be modified such as reducing poundage, reducing the number of shots, reducing the depth and size of drill holes, changing the free face direction, using electronic detonation, or implementing other measures to control the potential for damage.

    i. Such safety measures taken when blasting in red zone areas will be documented in the blasting logbook.

    ii. Residents affected by blasting in red zone areas will be given notification of the blast at least three hours and no more than 24 hours prior to the blast. This notification is to include the planned blasting activities, the safety measures that will be used, blasting signals, and precautions the residents should take.

    iii. Notification of residents will be documented in the blaster's logbook or a record book designated for that purpose maintained at the mine site.

10. Auger/highwall miner operation

a. Type of Auger/Highwall Miner:

b. Diameter/Width:

c. Maximum Cut Depth:

d. Minimum web width:

e. If a hazardous condition exists in an area being augered or mined, the condition shall be corrected or the machine moved to a safe location.

f. Should a work area become fogged in or if other weather conditions exist to the degree that the highwall cannot be safely evaluated and monitored, work shall cease in that area or be moved to a safe area.

g. When augering where auger holes may mine together, especially on points, extra precautions will be taken to leave the size of webbing adequate to prevent caving.

h. Sketches are attached showing the details of the auger/highwall miner operation.

11. Training/Documentation

a. The contents of this plan and the mine map will be reviewed with all newly employed miners. The surface foreman will ensure that all newly employed miners are familiar with the contents of this plan prior to allowing them to work.

b. The contents of this plan and the mine map will be reviewed with all miners immediately after approval and during annual re-training.

c. The applicable contents of this plan will be reviewed with all employees immediately prior to starting work in red zones. The surface foreman will ensure that the employees are aware of the red zones and are familiar with the requirements of this plan and the contents of the mine map.

d. A record of the training required under this section will be maintained at the mine and open for inspection for a period of one year. A record of the training required under paragraphs a. and b. above will be recorded on the MSHA 5023 form by checking the "other" box and indicating the type of training provided. A record of training required by paragraph c. above will be recorded in the on-shift book or other equivalent record of the mine with the names of the employees receiving the training included.

12. Management Control

a. The surface foreman is responsible and accountable for the implementation of this ground control plan.

b. The surface foreman will ensure that work assignments and necessary precautions for red zone work is clearly communicated to all affected miners.

c. The surface foreman will provide direct monitoring and evaluation to ensure that effective control of work in the red zones is maintained in accordance with the ground control plan.

d. The person countersigning the on-shift report of the surface foreman will ensure that records reflect compliance with any record required by this plan and that any hazardous conditions recorded have been promptly corrected.

e. Should a situation arise where the mine management cannot comply with the contents of this plan, the surface foreman will consult with appropriate company management to seek alternative methods that offer an equal level of safety or greater. The Chief of the Division of Mines must approve any variance from this plan.

This plan will be incorporated into the DMLR coal surface mining permit plan. Provisions of this plan will be jointly enforced by DM and DMLR.